Listing of Claims:

1. (Currently Amended) A computer-implemented method for automated performance modeling of an information technology system, comprising: for building automatically performance models for an Information Technology system having a first number of servers and carrying out a second number of types of transactions, the method comprising:

receiving performance data of the system;

receiving data of transaction flows and system topology; and

inferring service demand parameters based on the received data

receiving system topology data and transaction flow data associated with a distributed data processing system that comprises a plurality of servers which perform a plurality of types of transactions;

generating a performance model of the distributed data processing system using the system topology and transaction flow data, wherein the performance model characterizes service performance of the distributed data processing system as a function of service demand parameters;

receiving performance data of the distributed data processing system;

inferring service demand parameters using the performance data; and

parameterizing the performance model with a set of service demand parameters that are determined using the inferred service demand parameters.

2. (Original) The method of claim 1, wherein the step of receiving performance data comprises receiving end-to-end response times of transactions carried out by the system or response times of transactions at the servers composing the system.

3. (Original) The method of claim 1, wherein the step of receiving performance data comprises receiving server load information.

4. (Original) The method of claim 1, wherein the step of receiving performance data comprises receiving system throughput measurements.

2

5. (Currently Amended) The method of claim 1, wherein the step of receiving a transaction flow data comprises receiving at least one modeled queue corresponding to at least one component of the system.

6. (Original)The method of claim 1, wherein the step of inferring service demand parameters comprises inferring service times of transactions handled by said servers.

7. (Original) The method of claim 1, wherein the step of inferring service demand parameters comprises:

deriving equations for the performance data;

solving the equations to find at least one value corresponding to service time for a transaction handled by a server; and

selecting an optimum value of service time.

8. (Original) The method of claim 7, wherein the step of selecting an optimum value comprises:

computing performance data for the transaction flow model using each of said values;

comparing the computed performance data with the received performance data; and

selecting the value of service time corresponding to the computed performance being closest to the measured performance data.

9. (Original) The method of claim 1, wherein the step of inferring service demand parameters comprises:

creating a stochastic model of the system;

obtaining from the stochastic model at least one value corresponding to service time for a transaction handled by a server; and

searching for an optimum value of service time.

10. (Original) The method of claim 9, wherein the searching step comprises applying a meta-heuristic search to the stochastic model of the system.

11. (Original) The method of claim 9, wherein the searching step comprises applying an annealing algorithm to the stochastic model of the system.

3

12. (Currently Amended) A computer readable medium comprising ~~containing a~~ computer executable code that when read by a computer causes the computer to perform a method for automated performance modeling of an information technology system, ~~modeling the performance of an Information Technology system having a first number of servers and carrying out a second number of types of transactions,~~ the method comprising:

~~receiving performance data of the system;~~

~~receiving data of transaction flows and system topology; and~~

~~inferring service demand parameters based on the received data~~

receiving system topology data and transaction flow data associated with a distributed data processing system that comprises a plurality of servers which perform a plurality of types of transactions;

generating a performance model of the distributed data processing system using the system topology and transaction flow data, wherein the performance model characterizes service performance of the distributed data processing system as a function of service demand parameters;

receiving performance data of the distributed data processing system;

inferring service demand parameters using the performance data; and

parameterizing the performance model with a set of service demand parameters that are determined using the inferred service demand parameters.

13. (Original) The computer readable medium of claim 12, wherein the step of receiving performance data comprises receiving response times of transactions at the servers or end-to-end response times of the transactions carried out by the system.

14. (Original) The computer readable medium of claim 12, wherein the step of receiving performance data comprises receiving server load information.

15. (Original) The computer readable medium of claim 12, wherein the step of receiving performance data comprises receiving system throughput measurements.

16. (Currently Amended) The computer readable medium of claim 12, wherein the step of receiving ~~a~~ transaction flow data comprises receiving at least one modeled queue corresponding to at least one component of the system.

4

17. (Original) The computer readable medium of claim 12, wherein the step of inferring service demand parameters comprises inferring service times of transactions handled by said servers.

18. (Original) The computer readable medium of claim 12, wherein the step of inferring service demand parameters comprises:

deriving equations for the performance data;

solving the equations to find at least one value corresponding to service time for a transaction handled by a server; and

selecting an optimum value of service time.

19. (Original) The computer readable medium of claim 18, wherein the step of selecting an optimum value comprises:

computing performance data for the transaction flow model using each of said values;

comparing the computed performance data with the received performance data; and

selecting the value of service time corresponding to the computed performance being closest to the measured performance data.

20. (Original) The computer readable medium of claim 12, wherein the step of inferring service demand parameters comprises:

creating a stochastic model of the system;

obtaining from the stochastic model at least one value corresponding to service time for a transaction handled by a server; and

searching for an optimum value of service time.

21. (Original) The computer readable medium of claim 20, wherein the searching step comprises applying a meta-heuristic search to the stochastic model of the system.

22. (Original) The computer readable medium of claim 20, wherein the searching step comprises applying an annealing algorithm to the stochastic model of the system.